

Part of sequence of PR1a gene
(In the periphery of 3'—end of signal sequence)

Leu Phe Leu Val Ile Ser His Ser Lys Arg Alargiu
TTA TTC CTA GTA ATA TCC CAC TCT TGC CGT GCC CAA

AAT AAG GAT CAT TAT AGG GTG AGG ACG CCT CGG G-5'

3'—T TAT AGG GTG AGG ACG ECT CGG G-5'

PStI7

Mature protein

Bases represented by small letters show a portion in which mutation is introduced.

SPR1 a31

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Part of sequence of PR1a gene
                                                                                                                                                                                                                                   Pro Tyr *** | (Regiuii eiicuuiiig v—teifiiiigii 5'-CCA TAC TAA TTG AAA CGA CCT ACG TCC ATT-3'
                                                                                                                                                                                                                                                                                                                                               5'-GCT GCT ACA GCA CGT GGT TAA TTG AGC TCG AAA CGA CCT ACG TCC-3'
                                                                                                                5'-GCT GCT ACA GCC AGA GGT TAA TTG AAA-3'
Part of Sarcotoxin gene
(Region encoding C—terminal of mature peptide)
                                                                                  Ala Ala Thr Ala Arg Gly ***
                                                                                                                                                                                                                                                                                                                                                                               PmaCl
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AR001

# FIG. 4

Part of sequence of PR1a gene (Border between signal sequence and region encoding mature protein)

Part of Sarcotoxin gene (Region encoding N-terminal of mature peptide) 5'4GGT TGG TTG AAA AAG ATT GGC AAA AAA-3' Gly Trp Leu Lys Lys Ile Gly Lys Lys 5'-CAC TCC TGC AGA GCC GGT TGG TTG AAA AAG ATT GGC-3' His Ser Lys Arg Ala|Gly Trp Leu Lys Lys Ile Gly → Mature protein Leu Phe Leu Val Ile Ser His Ser Lys Arg Ala Glu 5'-TTA TTC CTA GTA ATA TCC CAC TCT TGC CGT GCC CAA-3' -Signal sequence-

MSARCO51

Part of Sarcotoxin gene (Region encoding C—terminal of mature peptide)

Ala Ala Thr Ala Arg Gly \*\*\*

5'-GCT GCT ACA GCC AGA GGT TAA TIG-3'
3'-CGA CGA TGT CGG TCT CCA ATT AAC-5'

3'-CGA CGA TGT CGT GCA CCA ATT AAC TCG AGC TTT-5' PmaC1 Saci

MSARCO31

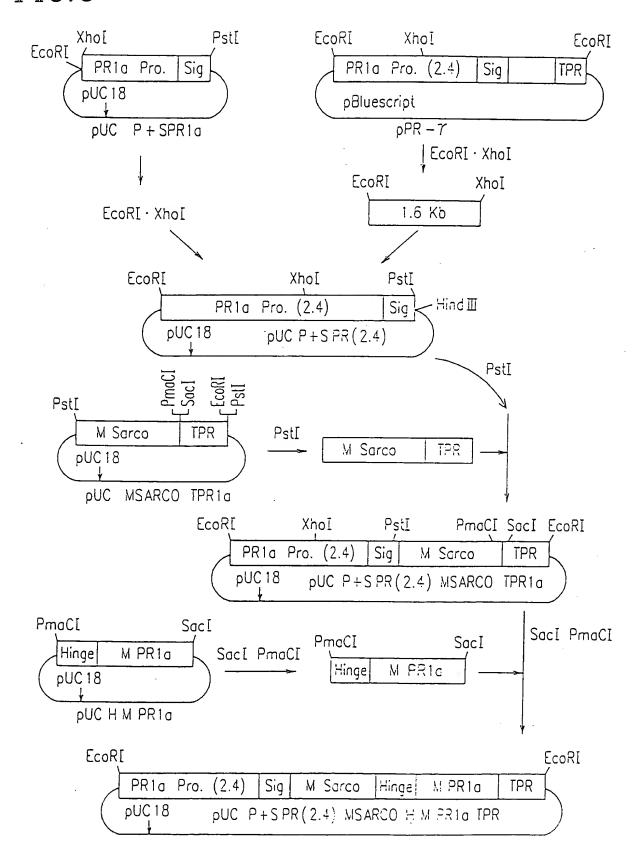
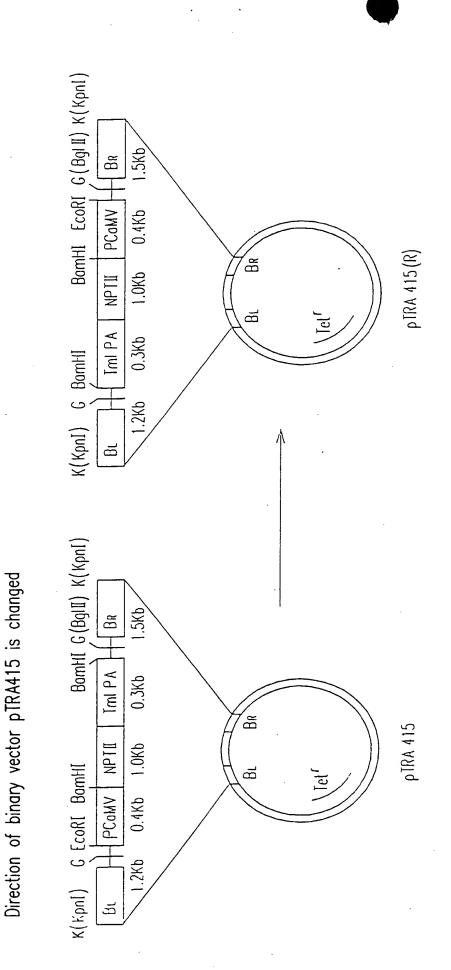
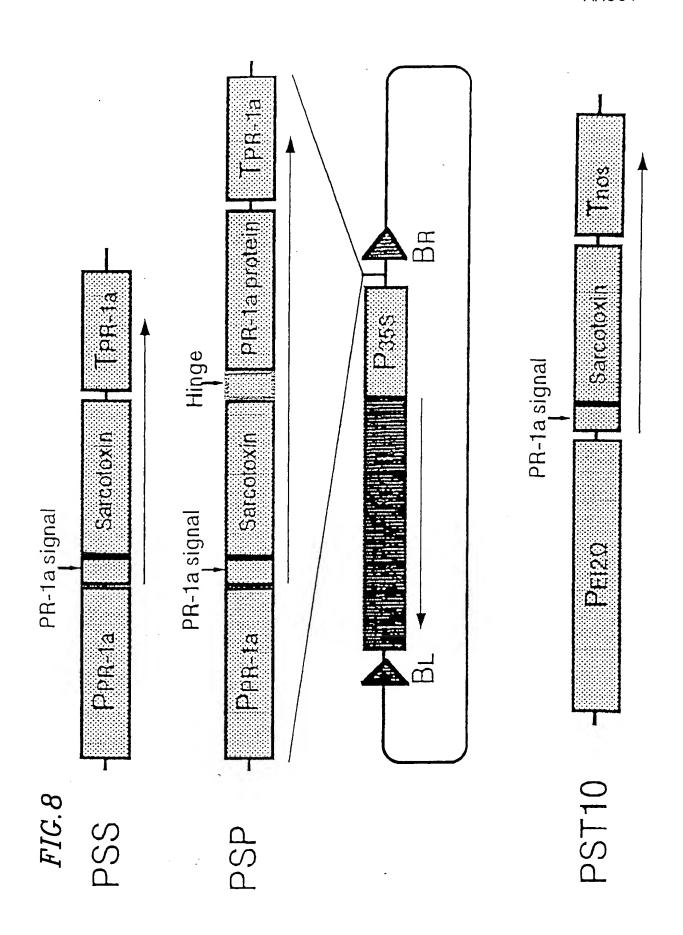
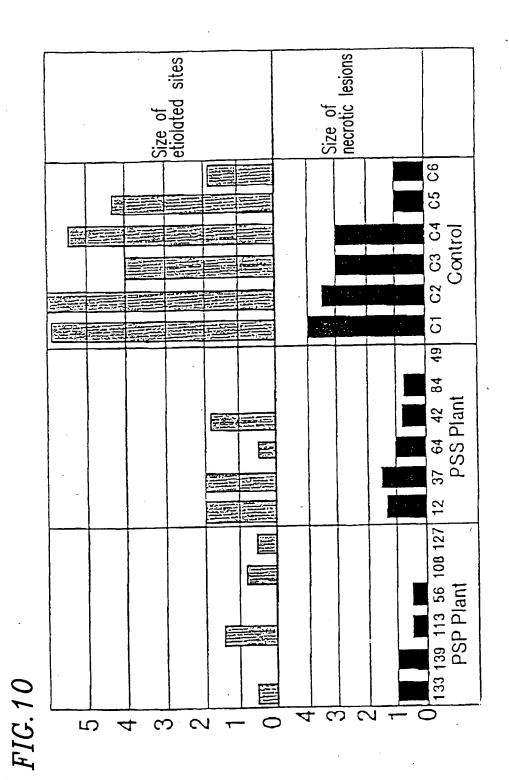


FIG. 7





		<del>:_</del> _	$\neg$			-		
					←Fusion Protein		otoxin	
					<b>4</b> -Fusio	←PR1a	▲- Sarcotoxin	
B. Anti-PR1a antibody	110	ا ا	119 121 127 / 119 121 127	+	4.		•	
ant	_	PSP	121	+ +	<b>₹</b> -14 <b>\$</b>			
-PR1c	rmec Jals	2	115	+	\$ 4			
Anti-	Transformed individuals	,	/ /	'				
В.	<u>1</u>	ما	1 12	ı		•		
		PSP	19 12	'	- 	;·		
		.1	-		-	·		<del>-</del>
ody			127	+		:		
A. Anti-Sarcotoxin antibody	,	PSP	119 121 127	+ + +	-			
oxin	Transformed individuals		139	+		j	į	
arcot	ransforme ndividuals	7	\	,			į	
nti-S	<u>`</u> E.⊆ "		127					
A.A		PSF	119 121					
			113	•				
		duced ne		SA treatment				
		Introduced gene		SA tre			-	



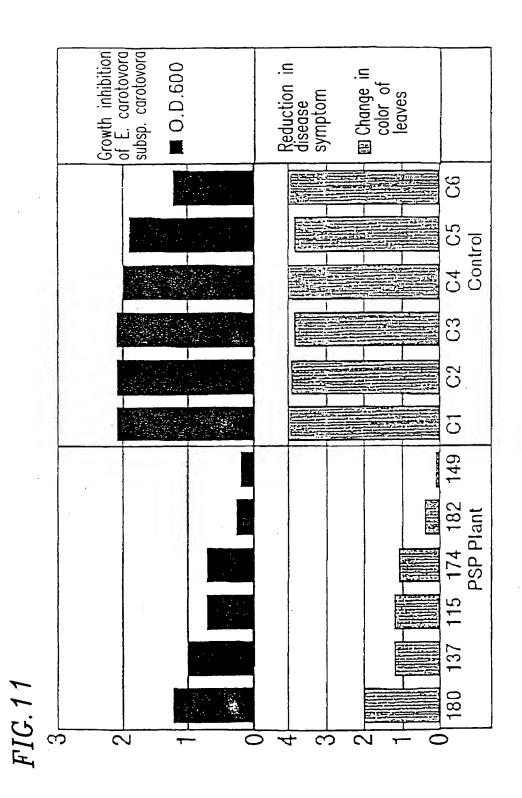


FIG. 12

F.	оху.	F۰	3
	~,,,	• •	•

Added amour	it ,	Culture time	h		
<u>of Sarcotoxin</u>	$\mu g/ml$ 0	121	24	36	48
0	0.0707828	0.283131	0.786475	1.3291428	2.2729128
0	0.0707828	0.1966188	0.786475	1.3291428	2.2729128
0	0.0707828	0.283131	0.9516348	1.541491	2.548179
50	0.0707828	0.283131	0.786475	1.7695688	2.548179
50	0.0707828	0.283131	0.786475	1.541491	2.2729128
50	0.0707828	0.1966188	0.503344	1.132524	1.7695688
200	0.0707828	0.283131	0.786475	1.541491	2.2729128
200	0.0707828	0.1966188	0.503344	0.9516348	1.7695688
400	0.0707828	0.283131	0.786475	1.3291428	2.013376
400	0.0707828	0.283131	0.6370448	0.9516348	1.541491

Standard deviation

<del>georia</del> de macion					
Added amount ,		Culture time [	hÌ		
of Sarcotoxin µg/ml	O	12-	- 24	36	48
0	0	0.0499479	0.095355	0.1225993	0.158925
50	0	0.0499479	0.1634658	0.3227743	0.3948334
200	0	0.0611734	0.2002039	0.4170914	0.355918
400	0	0	0.1056631	0.2669385	0.3336731

Average

Added amount		Culture time [	hÌ		
	.g/ml 0	12 4	24	36	48
Ŏ	0.0707828	0.2542936	0.8415283	1.3999255	2.3646682
50	0.0707828	0.2542936	0.692098	1.4811946	2.1968868
200	0.0707828	0.2398749	0.6449095	1.2465629	2.0212408
400	0.0707828	0.283131	0.7117599	1.1403888	1.7774335

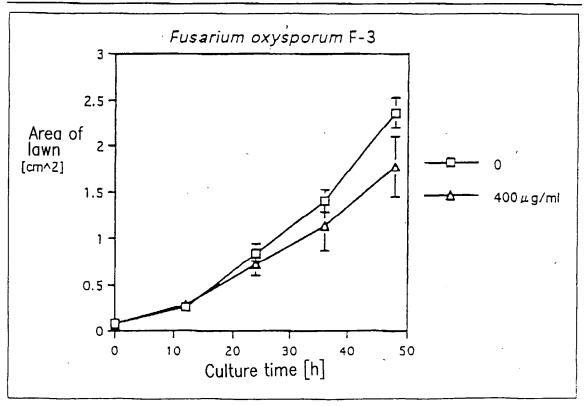


FIG. 13

R.sola.A	G-4 1	272
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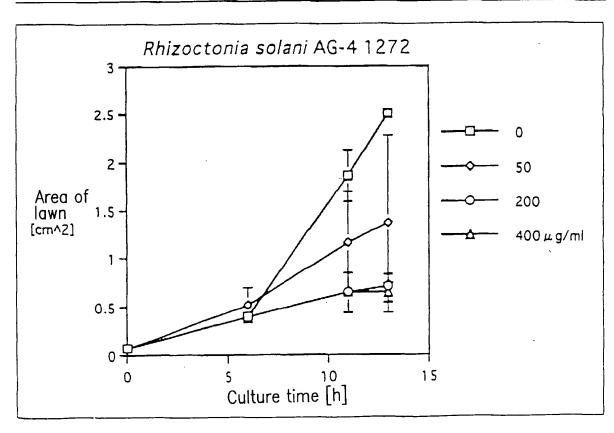
Added a	mount ,		Culture time [h]	<del>_</del> _	
of Sarcot	oxin µg/r	nlo_	6	11	13
	0	0.07078275	0.38537275	1.541491	2.548179
	0	0.07078275	0.38537275	2.013376	2.408579688
	0	0.07078275	0.38537275	2.013376	2.548179
	50	0.07078275	0.38537275	0.786475	0.709793688
	50	0.07078275	0.63704475	1.541491	2.013376
	200	0.07078275	0.38537275	0.503344	0.63704475
	200	0.07078275	0.38537275	0.786475	0.786475
	400	0.07078275	0.38537275	0.503344	0.568228188
	400	0.07078275	0.38537275	0.786475	0.709793688

Standard deviation

Added amount of Sarcotoxin µg/ml	0	Culture time [h] 6	11	13
Ŏ.	0	0	0.272442932	0.080597701
50	0	0.177958978	0.533876934	0.921771893
200	0	0	0.20020385	0.105663143
400	0	0	0.20020385	0.100101925

Average

Added amount of Sarcotoxin µg/	ml o <sup>C</sup>	ulture time [h] <sub>6</sub>	11	13
Ö	0.07078275	0.38537275	1.856081	2.501645896
50	0.07078275	0.51120875	1.163983	1.36158484 <i>4</i>
200	0.07078275	0.38537275	0.6449095	0.711759875
400	0.07078275	0.38537275	0.6449095	0.639010938



O	$\sim$	•		
R.sola,	Кh	170C	tonia	solani

1111200001110			
Added amount ,		Culture time [h]	-
of Sarcotoxin $\mu g/$	ml o	6	18
Ó	0.07078275	0.38537275	2.83917475
0	0.07078275	0.503344	3.46835475
0	0.07078275	0.283131	2.548179
50	0.07078275	0.503344	2.013376
50	0.07078275	0.503344	1.32914275
200	0.07078275	0.38537275	1.132524
200	0.07078275	0.63704475	1.32914275
400	0.07078275	0.283131	0.503344
400	0.07078275	0.503344	0.63704475

Standard deviation			
Added amount of Sarcotoxin µg/ml	0	Culture time [h] 6	18
ŏ	0	0.110200088	0.470331339
50	0	0	0.483825971
200	0	0.177958978	0.139030451
400	0	0.155714106	0.094540707

Average			
Added amount of Sarcotoxin µg/ml	0	Culture time [h] 6	18
	0.07078275	0.390615917	2.951902833
50	0.07078275	0.503344	1.671259375
200	0.07078275	0.51120875	1.230833375
400	0.07078275	0.3932375	0.570194375

